

**Notice of Allowability**

Application No.

10/705,860

Applicant(s)

MORII ET AL

Examiner

Art Unit

Faye Polyzos

2878

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 13 November 2003.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>3/16/04</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                              | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

### ***Allowable Subject Matter***

1. Claims 1-16 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding independent claims 1 and 10, the prior art does not disclose or fairly suggest an image pickup apparatus, comprising a semiconductor conversion element forming an electrode outside a region in which two of the drive wiring, an electrode of the switching element, and the signal wiring overlap each other, exclusive of at least part of a region above the drive wiring and at least part of a region above the electrode of the switching element.

The examiner notes that while it is known in the art for an image pickup apparatus with a semiconductor device to comprise a plurality of semiconductor elements, a plurality of switching elements, and a plurality of drive lines for driving the switching elements, and a plurality of signal lines for reading out an electric charge detected by the semiconductor elements provided on a substrate in order to form a redundant circuit with no decrease in aperture ratio to prevent the yield from being lowered due to wire breaking (see for example *Ishii et al* – US 2002/0017666 A1 – [0016], [0018]) and single extra wiring (redundant wiring) can be suitably selected depending on the number of possible breakings in each wire and breaking in wiring is irradiated with a laser to electrically connect the lines to each other enabling readout of an electric charge through a broken line therefore, lowering the yield due to breaking of data signal lines that can be prevented (see for example *Ishii et al* – US 2002/0017666

A1 – [0076], [0078] and [0093]), the prior art does not fairly suggest a structure where a semiconductor conversion element forming an electrode outside the region, as disclosed supra, to stably process a defect portion by laser for suitable repair.

Regarding independent claim 13, the prior art does not disclose or fairly suggest an image pickup apparatus, comprising a semiconductor conversion element wherein the electrode is removed at least in vicinities of the region where the switching element is formed and part of the driving wiring.

The examiner notes that while it is known in the art for an image pickup apparatus with a semiconductor device to comprise a plurality of semiconductor elements, a plurality of switching elements, and a plurality of drive lines for driving the switching elements, and a plurality of signal lines for reading out an electric charge detected by the semiconductor elements provided on a substrate in order to form a redundant circuit with no decrease in aperture ratio to prevent the yield from being lowered due to wire breaking (see for example *Ishii et al – US 2002/0017666 A1 – [0016], [0018]*) and single extra wiring (redundant wiring) can be suitably selected depending on the number of possible breakings in each wire and breaking in wiring is irradiated with a laser to electrically connect the lines to each other enabling readout of an electric charge through a broken line therefore, lowering the yield due to breaking of data signal lines that can be prevented (see for example *Ishii et al – US 2002/0017666 A1 – [0076], [0078] and [0093]*), the prior art does not fairly suggest a structure where the semiconductor conversion element forming an electrode wherein the electrode is removed from the regions where the switching element is formed and in part of the

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driving wiring, as disclosed supra, to stably processes a defect portion by laser for suitable repair.

The remaining claims are allowable based on their dependency.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Polyzos whose telephone number is 571-272-2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FP



**DAVID PORTA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**